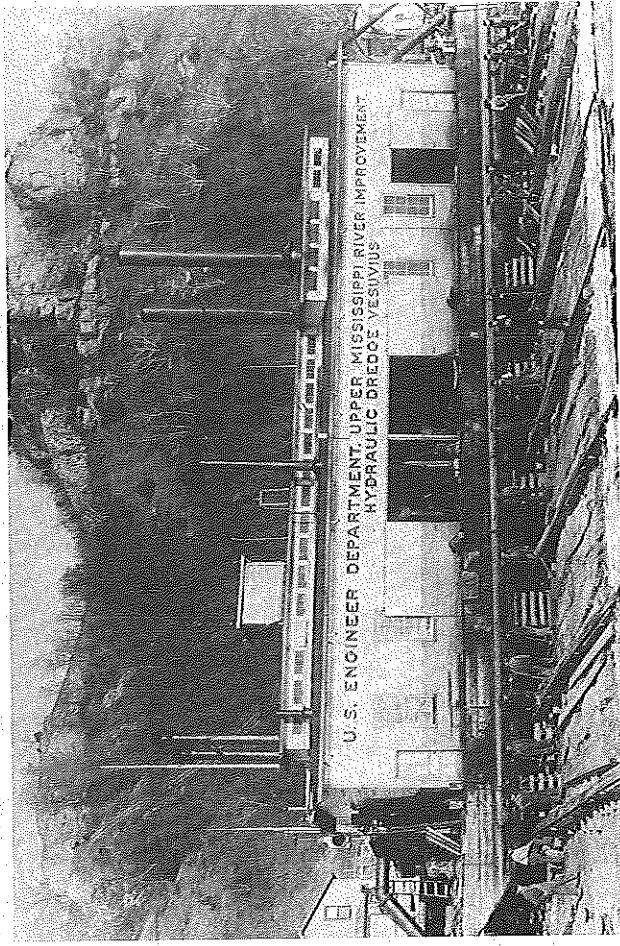




US Army Corps
of Engineers
St. Paul District

100
YEARS
1894-1994

The Boatyard



U S Army Corps of Engineers, St. Paul District
Army Corps of Engineers Centre
190 Fifth St. East
St. Paul, MN 55101-1638
July 1994

History of the
Fountain City Service Base



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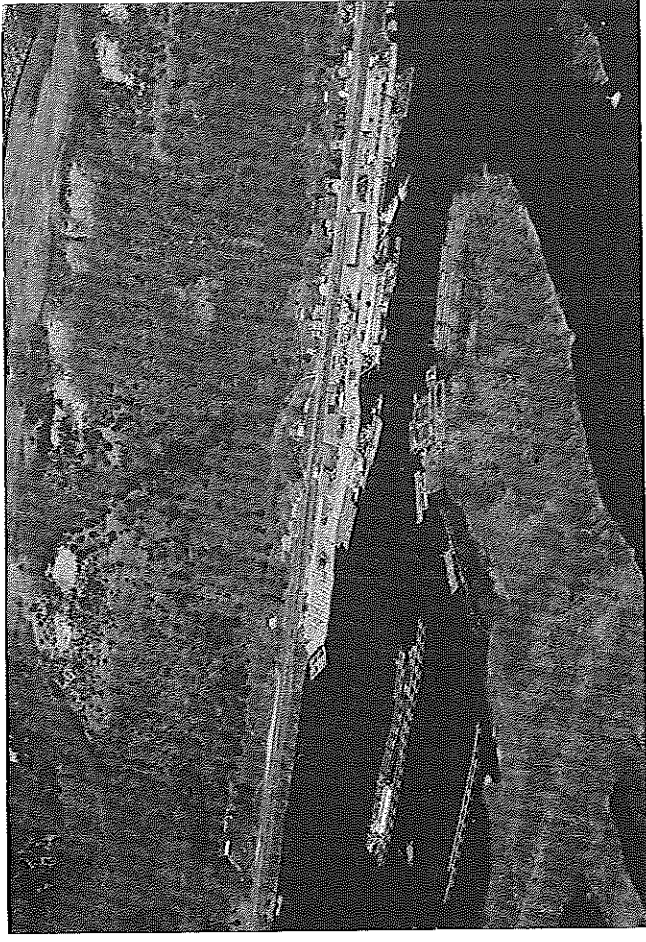
Annual Reports of the Chief of Engineers (1894, 1895, 1896).

Fountain City newspaper clippings (undated) in scrapbook kept by Mr. and Mrs. Leland Brommerich, Fountain City, and from Armin Arms, Fountain City.

Interviews with Alberta Kirchner Hill, Galesville, Wis.; Mr. and Mrs. Milton Rath, Fountain City; Felix Bambenek, Winona, Minn.; Mr. and Mrs. Leland Brommerich, Fountain City.

Foremen of the Boatyard Have Been:

Nathan F. Titus
Louis Fiedler
F.C. Dickenson
Alfred B. Dreher
Richard Thoman (Temporary)
Robert V. Grossell
Elmer Boller



Aerial View, 1981

Fountain City Boatyard

Mission

For 100 years, the Fountain City Boatyard has played an essential role in supporting the Corps of Engineers' efforts to improve navigation on the Upper Mississippi River. These efforts have included the 4 1/2-foot channel project (1878-1907), the 6-foot channel project (1907-1930), and the 9-foot channel project (1930-present).

The first two of these projects were attempts to create a continuously navigable channel on the river by means of dredging, snagging, and the construction of wing dams. The 9-foot channel project further improved navigation by the construction of a series of locks and dams on the Mississippi River.

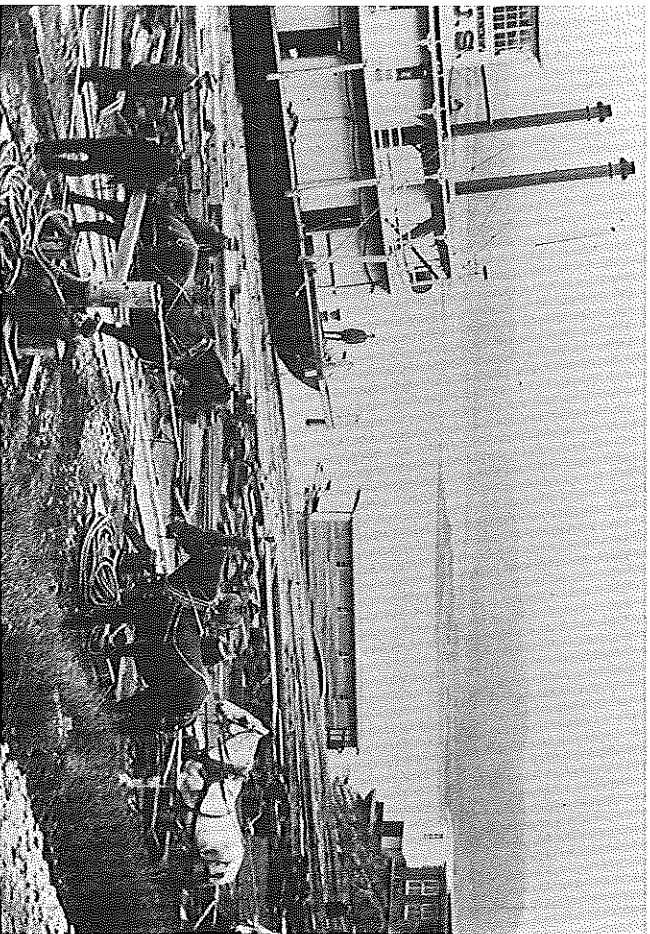
Today, the Fountain City Boatyard is the Corps of Engineers' primary service base for the Mississippi River north of Guttenberg, Iowa. For a century, the Corps has used the Boatyard for the construction, repair and maintenance of vessels and equipment used for river improvement projects.

Location and Origins

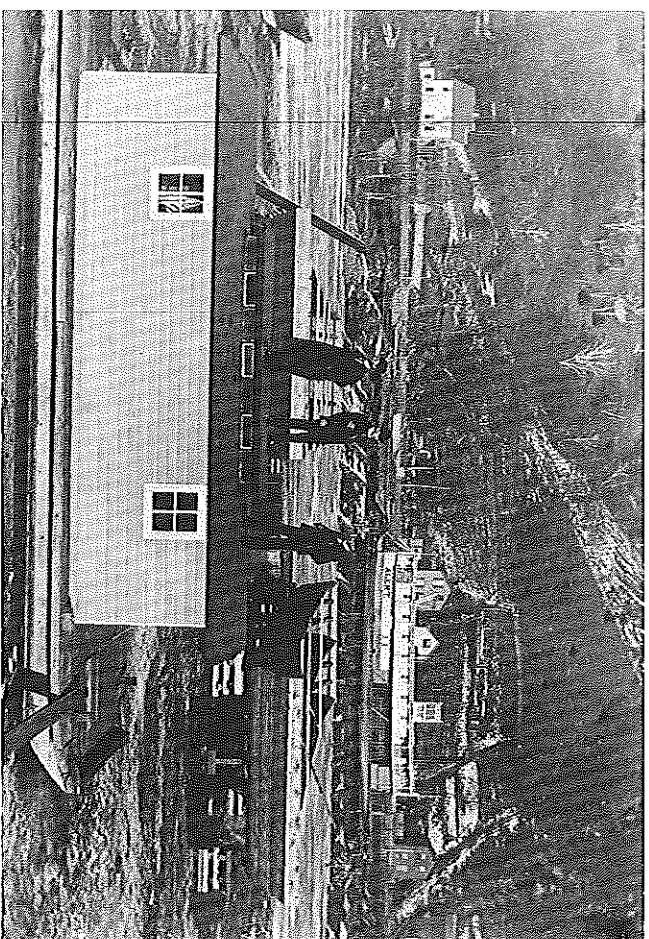
The Fountain City Boatyard is located on a 3.6-acre tract of land between the Mississippi River and Highway 35 in the community of Fountain City, Wisconsin.

Fountain City has a natural protective harbor formed by the widening mouth of Waumandee Creek as it joins the Mississippi River at the north end of town. Between the late 1880s and 1895, the Corps of Engineers and its contractors kept mooring spaces across the bay from the present location of the boatyard, near Schuster's Island, to harbor and repair vessels. Although the Corps purchased the current site of the boatyard in 1894, the actual construction and repair of vessels did not begin there until 1895, after marine ways had been built.

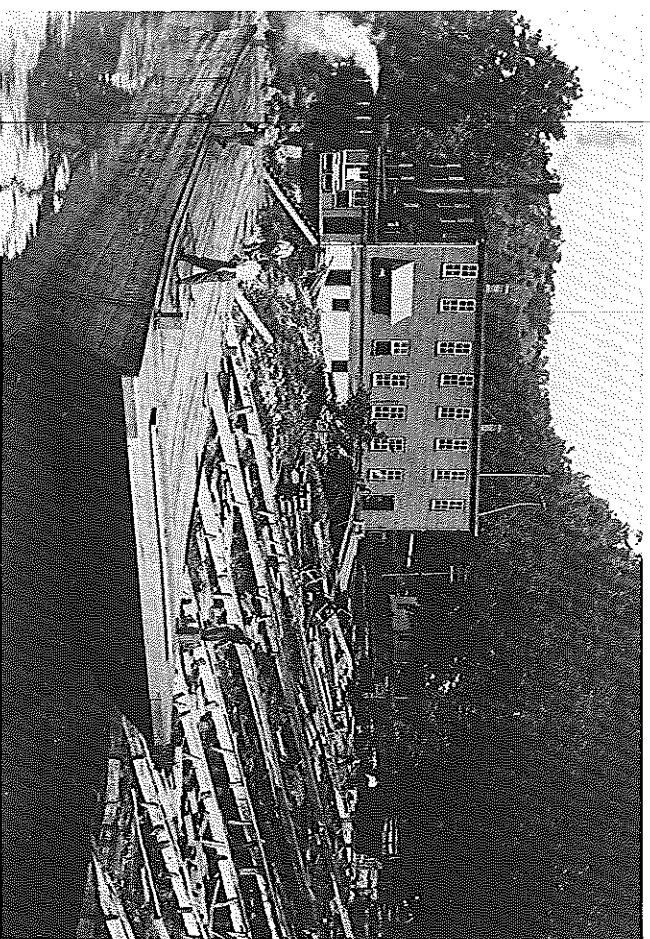
As the number and complexity of navigation projects on the Upper Mississippi River expanded, the Corps constructed an extensive fleet of boats of various types to do its work. More than 200 towboats, tenders, snagboats, dipper and hydraulic dredges, quarterboats, buildingboats, barges, launches and skiffs were added to the fleet in the years after 1895. All of these vessels were repaired and maintained at the Fountain City Boatyard, and a number of them were constructed on the premises as well.



Horse-powered "Crabs" Were Used to Haul Boats Until 1948.



Vessels at the Boatyard and Visitors, early 1900s



Barge on the Marine Ways, c. 1930s

vertical cylinder pivoting on a base that was anchored to a piling. Seven or eight turns of the loose end of rope were wrapped around the cylinder secured only by friction and tension created by horses pulling in a turnstile pattern. Each crab unit required a man to coil the loose spent end of rope as it came from the cylinder that had the horizontal wagon tongue extension hitched to horses. All units operating in union inched the boat to its location. Horses soon became self-sufficient in the task, responding automatically to whatever the situation required. They were locally owned and available to the boatyard when needed." Rath recalls that year-round operations (in 1924) included a full crew of 65 men repairing boats, wooden barges, and building new 20 x 120-foot barges needed to transport rock and brush for building wing dams and material needs of the operating dredges.

When Felix Bambenek, of Winona, came to work at the boatyard as a welder, in 1942, "they still had barges made of wood, but they had to be pumped out regularly, they leaked so bad." The building of wooden barges had been discontinued in the mid-to-late thirties and the barges were now made of steel. Mr. Bambenek recalls welding on the bulkheads of the Steamer "General Allen" when he first came, but he went into the U.S. Navy the next year, during World War II, and before he returned in 1946, the "General Allen" had been sold.

As the only certified welder - until he had time to train others to the point where they could apply for certification - Mr. Bambenek also worked on the locks and dams, where, he says, "I straightened a lot of I-beams," and did certain welding jobs for other Districts as well. He did blacksmith work, too, after George Titus retired from the blacksmith shop and "they got rid of the old forge."

"We'd use a 'stiffleg' - a stationary steam-powered derrick - to pick the boats and barges out of the water, and set them on a cart on the railroad track, so we could work on them. (A 140-ton crane now does the lifting!) I did a lot of replating on pontoons, barges, and dump scows, and on pump shells of the dredges...the sand is so abrasive that it wears a hole right through the shell."

He recalls welding together surplus Navy pontoons to make a pipe barge for the Dredge "Thompson." "We did a great deal of refitting on the "Thompson" too, even to replacing the wooden pilot house and office with steel."

"They were still using horses to pull out boats and barges when I came, and I can remember a blind horse that was so trained that he knew when he came around to the rope and picked up his legs to step over it. But by about 1948, they got Army surplus Caterpillar tractors and that was the last of the horses." Mr. Bambenek retired in August 1979.

The boatyard was originally established by the Rock Island District of the Corps of Engineers, the boundaries of which extended upriver to just below St. Paul until 1919. At that time, the Corps redrew the St. Paul District's boundaries to extend as far south as northern Iowa. As a result, the St. Paul District consolidated its former service facilities, which had been located on the St. Croix River, with the boatyard at Fountain City.

The 4 1/2-Foot and 6-Foot Channel Projects

In its natural condition, the Upper Mississippi River was characterized by numerous side channels, backwaters, snags, sandbars, and wide shallows that often delayed and sometimes sank steamboats. Spring floods often rerouted the navigation channel. At low water, usually during the late summer or early fall, no continuous channel existed.

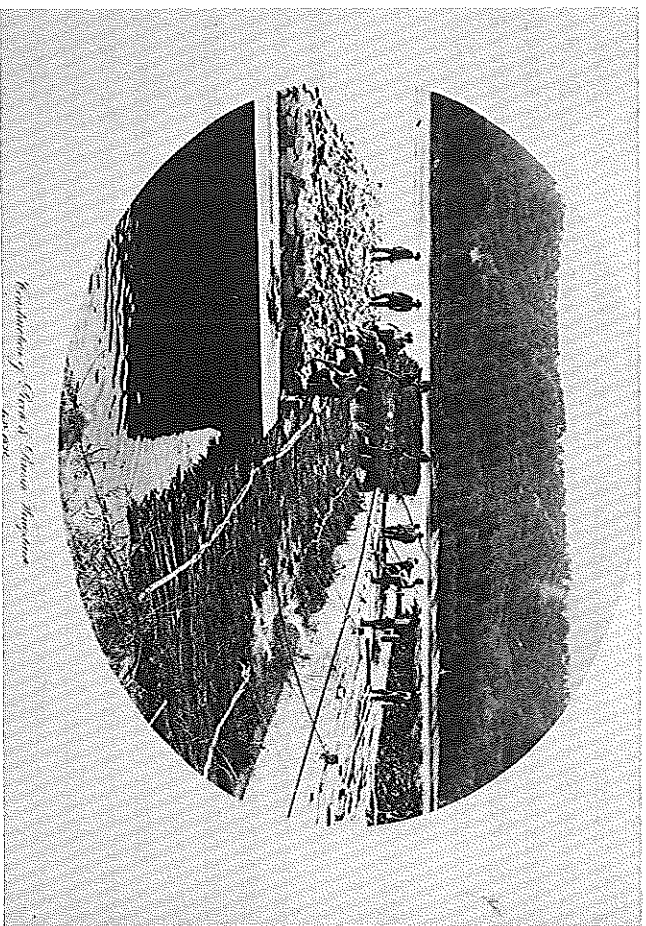
Before 1866, Congress had not authorized any comprehensive program to eliminate natural obstacles to river transportation on the Upper Mississippi River. By 1866, enough people had immigrated to the region to justify such a project. In that year, Congress authorized the Corps of Engineers to begin dredging, snagging and clearing trees, and removing sunken vessels from the river. However, these efforts left the river virtually unchanged and did little to enhance navigation.

As the Upper Midwest's population and agricultural production grew, pressure began mounting on Congress to authorize more significant improvements on the Upper Mississippi River. Consequently, in 1878, Congress authorized the 4 1/2-foot channel project, which would create a continuous navigation channel that was 4 1/2 feet deep at low water, between St. Paul and St. Louis.

To achieve the 4 1/2-foot channel, the Corps built wing dams and closing dams, protected shorelines, and dredged sandbars. Wing dams were long, narrow piers of rock and brush that stabbed into the river from the main shoreline or from the bank of an island. The Corps placed the dams in a series along one or both sides of the channel to reduce its width.

Closing dams, which ran from the shore to an island or from one island to another, diverted more water into the main channel. By narrowing the channel, wing dams increased the river's velocity, enabling it to cut through sand and debris. Moving faster, the river carried more sediment, some of it deposited in the calmer waters behind or between wing dams. In this way, the Corps constricted the river, gradually moving its banks inward.

In March 1907, in response to calls for additional navigation im-



Wing Dam Construction, c. 1890

provements on the Upper Mississippi River, Congress authorized the 6-foot channel project, which called for more wing dams, closing dams and dredging on the upper river to achieve a 6-foot channel at low water.

Captain Mackenzie and the Origins of the Government Fleet

Captain Alexander Mackenzie, District Engineer for the Rock Island District from 1879 to 1895, compiled a fleet of government vessels for navigation improvement projects on the Upper Mississippi River that would continue to expand after the end of his command tenure. Mackenzie believed the Corps would be able to carry out its mission more effectively and efficiently with its own fleet, rather than having to rely on contractors to do all its navigation improvement work.

It was Mackenzie who, in 1894, authorized the establishment of the Fountain City Boatyard to service the fleet and provide a place for new boats to be built. Mackenzie's effort was the beginning of a Corps of Engineers fleet on the upper river that would eventually grow to include over 200 vessels by 1940.

was the flagship of the U.S. Engineers fleet on the upper river. It was used as a maintenance and inspection boat, and towed dredges and barges used for the channel improvements and maintenance."

Upon the announcement of the retirement of Boatyard Foreman N.F. Titus, in 1924, the local newspaper reported that, "During his years of service, the U.S. boatyard has been steadily enlarged and modernized and today the plant represents a large investment by the government and is the scene of busy activity affording employment to many men. Usually during the summer months from 12 to 15 men are employed at the yard. In the winter, however, when most of the repair work to the floating plant is in progress, this number is increased to from sixty to seventy-five."

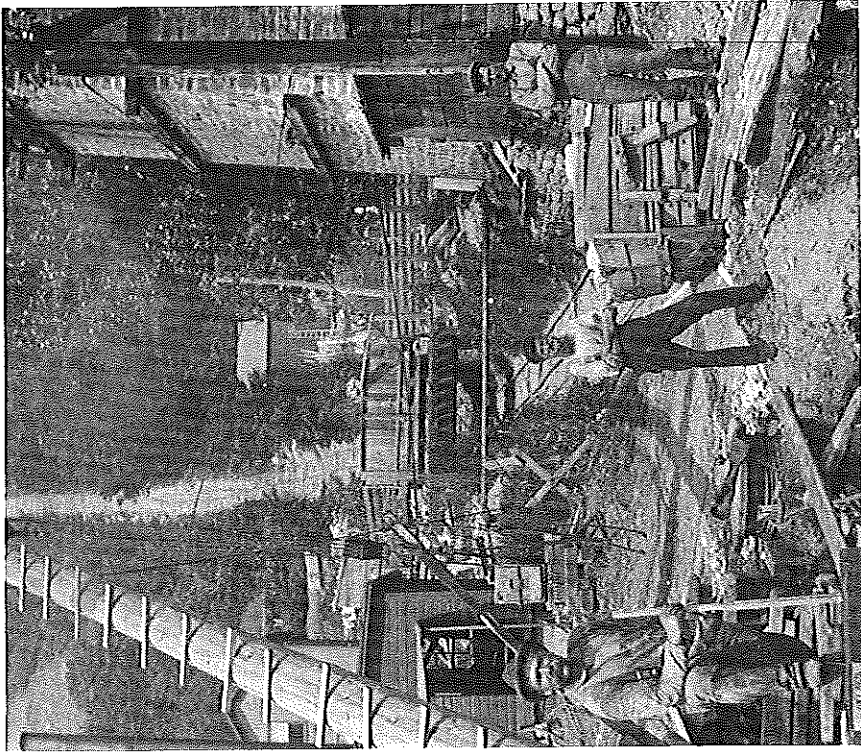
In 1952, a newspaper reported that, "This winter, about sixty men will be retained at the Boatyard for annual winter work, about half of them local residents. This work is not only a source of income to the employees, but to the community as well. The benefit to the community would probably be greater if more adequate living quarters could be provided for those employed."

Milt Rath, of Fountain City, retired from the boatyard in 1963 after some 45 years of service in the Corps of Engineers. Having spent his entire life on the river, he says, enabled him to fill many different positions...starting with "making beds on the quarterboats," at about 15 years of age. He soon graduated to running the Dredge "Pelée" for about 5 years, then caulked and painted wooden barges and "strip boats" at the boatyard for some 15 years, and when construction of wooden barges was discontinued, he did painting and sandblasting at the yard, as well as at locks and dams. He worked aboard the steamboat "Ada" to tow rock and brush for wing dams, operated with the survey crew on the Dredge "Pelée," and helped in construction of the lock and dam system.

"We also unloaded two and a half carloads of coal a day, loading it in dump buckets that ran on tracks through the yard from the rail siding. The tracks ran out over the shore so we could dump the buckets into barges. We always kept a supply of four or five barges full of coal along the shore for the steamboats. We kept barges of ice, too, for refrigeration," Mr. Rath recalls.

He tells, too, of hauling steamboats and barges onto the marine ways at the boatyard, with horses and "crabs," particularly when, in 1924, the Steamboat "Albert" was pulled into dry dock with "nine six-line blocks to move it."

"Each block having 1200 feet of rope connected to a turnstile type of unit called a 'crab' powered by horses. The crab had a drum-type



Tramway for Rock Quarry, c. 1910s

Boatyard Employees and Their Reminiscences

The Brommerich family of Fountain City is a three-generation "boatyard family" beginning with the first foreman, or as he was titled, "Master Carpenter," Nathan F. Titus. His son, George, and George's son, Nathan, worked for the Corps. Nathan Titus' daughter, Bertha, married George Hofer, who was a caulker and painter at the boatyard. Bertha and George Hofer's son, Franklin, worked at the boatyard, and their daughter, Corinne, married Leland Brommerich, who was a heavy equipment operator employed at the boatyard from 1956 until 1980. Leland's father, Carl, was fatally injured at the boatyard in 1930 while helping to move a boat off the ways, when his crowbar slipped and struck him in the abdomen.

Leland Brommerich remembers that, "The Steamer "General Allen"

Facilities - Then and Now

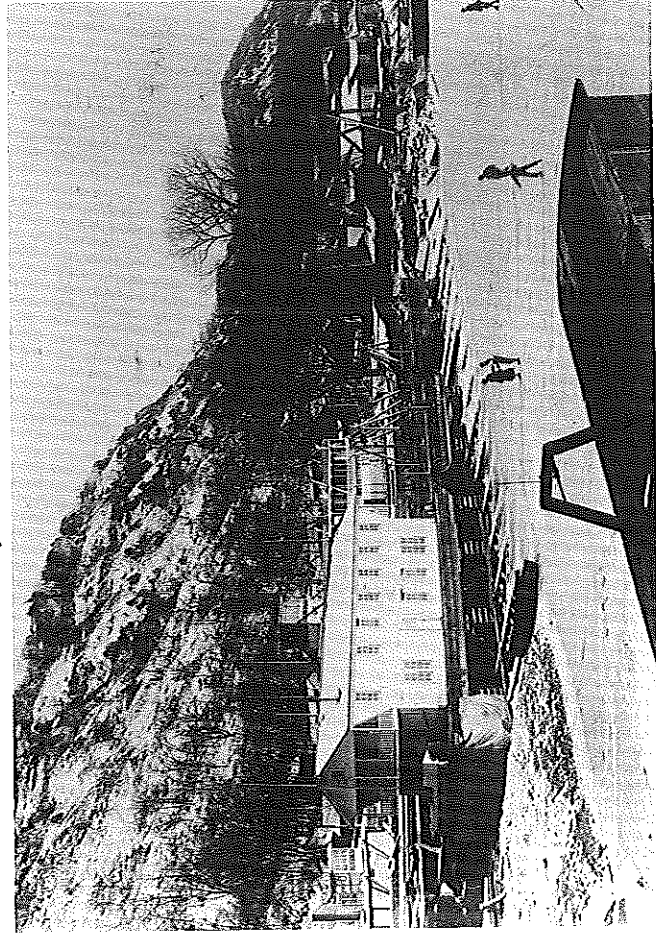
The only available description of the 1895 boatyard is taken from the German-language newspaper, the Buffalo County Republikaner. This account describes a 40 x 60-foot building constructed as a carpenter shop, blacksmith shop and warehouse for the service base.

Prior to 1907, the site was just large enough to include the marine ways and the shop. Then, in 1907, upon the recommendation of William A. Thompson, the engineer in charge of the boatyard, the Corps purchased an additional 2.4 acres of land along the bay to enlarge the service base. In 1908, the Corps constructed an additional two-story frame shop, 40 x 60 feet, with a 40 x 15-foot brick engine room attached. The Corps also laid 825 linear feet of car track for moving rock and equipment through the yard.

The marine ways were first located where the present parking lot extends along the embankment, and pilings were driven the entire length of the boatyard for tying up the vessels. In the lumbering heyday, rafts of logs were wintered in the bay along with the boats and barges.

A newspaper article of 1924 indicates that the Fountain City Boatyard had not expanded since 1908, although a larger marine ways had been constructed, as well as numerous lumber and launch sheds, a paint shop,

The Boatyard in Winter, c. 1910s



a creosote shed with a tank, a blacksmith shop and an ice house.

In the years since 1924, the Corps of Engineers has extended the width of the boatyard by filling in the river along its bank. In all, over the years, the Corps has added 1.2 acres to the site in this manner.

During the late 1930s and early 1940s, major changes occurred at the Fountain City Boatyard, as all of the older buildings at the yard were demolished and replaced with new structures. During this time, the Corps also improved the harbor and constructed a dike.

Five brick structures standing in the boatyard were built between 1935 and 1941. They are: the Storage and Stock Building (1935), the Storage Building (1940), the Machine and Mill Building (1940), the Boiler and Engine Building (1941) and the Paint and Oil Building (1941). Three additional buildings, all of metal, were constructed in 1948, 1956, and 1981.

Boatyard Activities - Then and Now

The annual reports of the Chief of Engineers for the late 1800s and early 1900s contain detailed descriptions of sites, specifications, surveys, and contracts awarded for the 4 1/2-foot and 6-foot channel projects. These reports also make reference to several locations, including Fountain City, La Crosse, and Boulanger Slough (above Hastings, Minnesota), where the "fleet" was "laid up" for the winter.

For example, the 1896 Annual Report indicates that, "On April 6, 1895, the dredge 'Vulcan' was towed from the winter harbor in Fountain City Bay to the dry bar above Coon Slough, where, on April 8, the work of dredging a new channel through the bar was commenced. The Towboat 'Alert' acted as tender for the dredge and assisted in the removal of the sand by washing the lower side of the bar into deep water with her wheel, which method proved very successful. The dredge was then taken to Richtman's Landing, where the wreck of an old rock barge was removed from the channel. September 18 and 19 the dredge was engaged in dredging in front of the boat ways at Fountain City. Preparations were then made to haul the dredge out on the ways and the crew was discharged. Towboat 'Alert' returned to Coon Slough and was employed during remainder of season towing rock and brush."

The 1896 Annual Report also reveals that, "During the year a large amount of repair and construction work was done at the boat yard in Fountain City. One large quarter boat, 8 barges, and 4 large skiffs were built. Repairs were made to towboat 'Alert,' launches 'Ada' and 'Elsie,' dredge 'Vulcan,' 2 dump boats, 7 quarter boats, 14 barges, and 17 skiffs. At such

to over \$100,000, while river employees averaged \$250 per year." The firm's fleet consisted of one steamboat, "Percy Swain," twenty barges and four houseboats. From 1878 until 1893, Jacob Richtman was foreman of the crews. Later, Ed Kirchner (Albert's son) was the manager of river maintenance contracts.

According to Mrs. Alberta Kirchner Hill, the granddaughter of Albert Kirchner, Richtman and Kirchner obtained their first Federal contract in 1878. At that time, their towboat was the "Belle of Bellevue." Later they owned the "City of Alma," then the "Cyclone" and finally, the "Percy Swain." By 1893, Albert had become sole owner of the fleet. In that year, at the age of twenty, Edward Kirchner, Mrs. Hill's father, started to work for the firm as a foreman, beginning a business association that was to last for 25 years. Mrs. Hill spent her childhood summers on quarterboats on the river, where she observed firsthand wing dam construction methods.

When Congress ordered the Mississippi River channel deepened to 6 feet in 1907, wing dam construction was accelerated, but World War I put an end to appropriations for river improvements from 1917 until the 1930s, and the Kirchner fleet was gradually sold off.

Kirchner's Rock Quarry

Around 1911, Charles Kirchner, another of Albert's sons, opened a stone quarry on the bluffs above Fountain City. A car track was built from the top of the bluff down the hill, through town and into the boatyard to facilitate the loading of rocks onto barges. Kirchner supplied rocks for the construction of wing dams until the 1930s, when the 9-foot channel project made wing dams unnecessary.

Two Fountain City natives, Corinne and Leland Brommerich, have vivid childhood memories of the operations at the Kirchner rock quarry on the bluff above the boatyard: "They drilled and blasted all winter to meet the government needs for the coming season. Tracks ran straight down the hill, passed under a bridge on the highway, through the boatyard and extended out from the shore. A hoist tipped the gondolas of rock into the barges below. The empty gondolas were pulled back up the hill by the weight of the full cart coming down. There was a huge, 8-foot circumference brake drum at the top, and ...a big man who sat there bracing against a 10-foot pole to brake the descent, and at the bottom there still stood the Kirchner's lime kiln."

times as the plant was not in use watchmen were employed in caring for same."

Today, work at the boatyard includes major welding repairs on barges, floating plant equipment and at lock and dam sites, as well as much of the St. Paul District's machine shop and mechanical repair work. In addition, the Boatyard has the only warehouse in the District. The warehouse stocks many hardware and dry goods items and requisitions and receives equipment and material necessary for the completion of repair and maintenance work throughout the District.

The boatyard has the necessary heavy equipment, such as cranes, welders, compressors, and blasting and painting tools, to support and maintain the District's locks and dams and floating plant. The District also uses the Fountain City base to store materials and equipment, such as sandbags and flood pumps, used during flood emergencies.

The "William A. Thompson," the Corps' largest and only remaining pipeline cutterhead dredge, uses the Fountain City Boatyard as its service base. The "Thompson" operates throughout the St. Paul District, as well as in the Rock Island, St. Louis, Memphis and Kansas City districts.

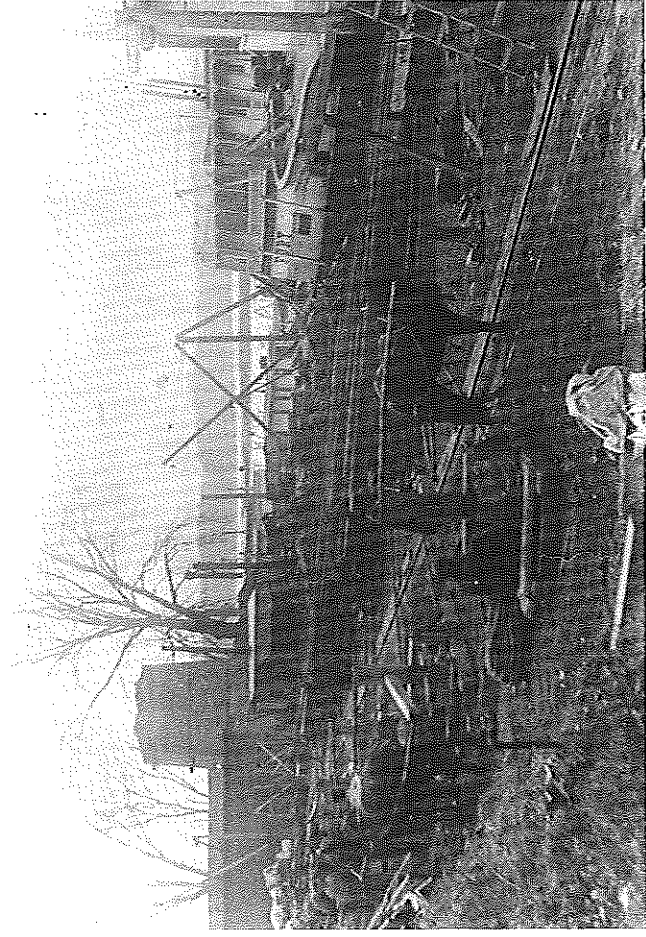
Wing Dam Contracts and Contractors

Frequent references are made in the early Chief of Engineers reports to Captain Jacob Richtman and Albert Kirchner, two Fountain City businessmen who became the principal contractors for wing dam construction on the Upper Mississippi River.

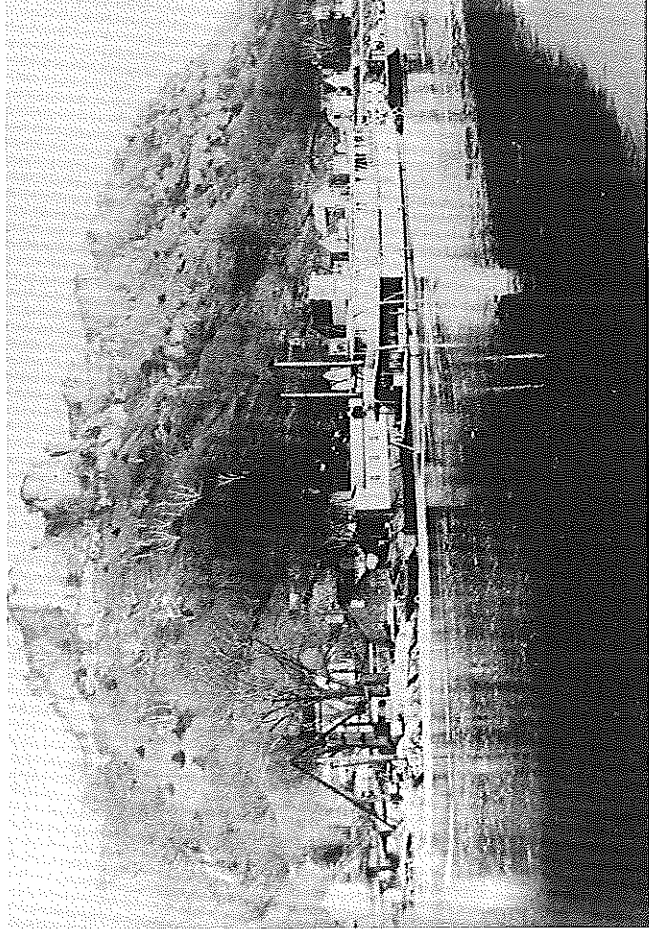
In 1878, Richtman and Kirchner, both farmers, formed a business partnership and were highly successful in obtaining government contracts for the construction of wing dams in the area. Their firm assembled a fleet of vessels offering freight and passenger service as well as river improvement work.

According to Edwin F. Ganz, a writer and the publisher of the Buffalo County Journal from 1890 to 1913, "Uncle Sam was letting contracts for building dams or jetties to improve navigation and he (Capt. Richtman) was bound to secure some of those contracts and do some of this work. He got the contracts, hired men, opened quarries, bought tools and implements and built barges...By this stroke of business Fountain City got the inside track on river improvements... This was the first step toward the many stone and brush contracts that followed, as well as toward the establishment of the boat yards at that place."

A 1911 Fountain City newspaper article states that the Corps of Engineers yearly contracts with the firm of Richtman and Kirchner "amounted



Activity on the Marine Ways, c. 1910s



View of Boatyard From the River, c. 1920



View of Boatyard from Bluff Above Fountain City, 1938